

PATENT CLAIMS

1. A coaxial cable (20), in particular for high frequencies in the range from the 1 GHz to 65 GHz, with a central inner conductor (21), a dielectric (22), coaxially enclosing the inner conductor (21), a strip-like first outer conductor (23), wound around the dielectric in a helical and overlapping manner, braided means of providing tensile strength (24), coaxially enclosing the first outer conductor (23), and a sleeve, coaxially sheathing the means of providing tensile strength (24), characterized in that additional stabilizing means (27) are provided within the coaxial cable (20) for the mechanical and or electrical stabilization of the first outer conductor (23).
2. The coaxial cable as claimed in claim 1, characterized in that the additional stabilizing means (27) are arranged between the first outer conductor (23) and the means of providing tensile strength (24).
3. The coaxial cable as claimed in claim 2, characterized in that the additional stabilizing means comprise a coaxial sheathing (27) of the first outer conductor (23).
4. The coaxial cable as claimed in claim 3, characterized in that the sheathing (27) consists of an electrically insulating plastic, in particular a fluorinated ethylene propylene (FEP).
5. The coaxial cable as claimed in claim 3, characterized in that the sheathing (27) consists of an electrically conducting plastic.

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- 5 6. The coaxial cable as claimed in claim 4 or 5, characterized in that the sheathing (27) is formed continuously in the longitudinal direction of the cable and is produced in particular by extrusion around the first outer conductor (23).
- 10 7. The coaxial cable as claimed in one of claims 3 to 6, characterized in that the wall thickness of of the sheathing (27) lies in the region of 1/10 mm.
- 15 8. The coaxial cable as claimed in one of claims 1 to 7, characterized in that the inner conductor (21) is formed as a silver-plated Cu wire, which preferably has a diameter in the region of 1 mm.
- 20 9. The coaxial cable as claimed in one of claims 1 to 7, characterized in that the inner conductor (21) is formed as a stranded wire, in particular comprising silver-plated Cu wires.
- 25 10. The coaxial cable as claimed in one of claims 1 to 9, characterized in that the dielectric (22) consists of an extruded plastic, in particular a low-density polytetrafluoroethylene (PTFE), and has a wall thickness in the region of 1 mm.
- 30 11. The coaxial cable as claimed in one of claims 1 to 10, characterized in that the first outer conductor (23) comprises a silver-plated Cu strip and preferably has a width of approximately 2.4 mm and a thickness of approximately 6/100 mm.
- 35 12. The coaxial cable as claimed in claim 11, characterized in that the Cu strip is wound with an overlap of at least 40% to form the first outer conductor (23).

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13. The coaxial cable as claimed in one of claims 1 to 12, characterized in that the means of providing tensile strength (24) are formed as a second outer conductor, in that the means of providing tensile strength (24) are braided in particular from silver-plated Cu wires with a minimum coverage of 50%, and in that the diameter of the Cu wires is approximately 1/10 mm.
14. The coaxial cable as claimed in one of claims 1 to 12, characterized in that the means of providing tensile strength (24) are braided from electrically insulating synthetic fibers, in particular aramid fibers.
15. The coaxial cable as claimed in one of claims 1 to 14, characterized in that the sleeve (25) consists of an electrically insulating plastic, in particular an extruded fluorinated ethylene propylene (FEP), and preferably has a wall thickness of approximately 2/10 mm.
16. The coaxial cable as claimed in one of claims 1 to 15, characterized in that the coaxial cable (20) is of a given length, the means of providing tensile strength (24) are formed as a second outer conductor, in that the coaxial cable is equipped at its ends with elements for producing an electrical connection, and in that the first and second outer conductors (23, 24) are connected to each other in an electrically conducting manner, at least at the ends of the coaxial cable (20).